This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-43 (canceled)

44. (Original) A method of processing received telemetry signals in an implantable medical device, comprising:
receiving a serial data stream from a demodulator;
translating the received serial data stream into parallel accessible words;
verifying message integrity;
detecting message type; and
acknowledging the received message.

45. (Original) The method as in claim 44, further comprising receiving a wake-up burst that activates the telemetry processor.

46. (Original) The method as in claim 44, further comprising shifting the data stream through cycle redundancy check logic and verifying a complete message has been received by the cycle redundancy check logic.

47. (Original) The method as in claim 44, further comprising notifying a main processor if an application message has been received.

48. (Original) The method as in claim 44 wherein the acknowledgement is transmitted upon receipt of a complete and validated message.

49. (Original) The method as in claim 44 wherein the acknowledgement is a negative acknowledgement transmitted upon receipt of an incomplete and not validated message.

50. (Original) The method as in claim 44 wherein the message type is selected

from the group consisting of: acknowledgement, negative acknowledgement, application, and waveform.

51. (Original) A method of processing transmitted telemetry signals in an implantable medical device, comprising:
selecting the message type to be transmitted with control logic;
adding source and destination address information with an uplink frame generator;
adding status information with control logic;
encoding the transmit message parallel accessible words into a transmit message serial data bits; and
transferring the message to a modulator for transmission of the message by telemetry.

52. (Original) The method as in claim 51, further comprising generating message validity code containing the number of transmit data bits and the order of the transmit data bits with a cyclic redundancy check generator.

53. (Original) The method as in claim 51, further comprising notifying the application program that the message has been transmitted.

54. (Original) The method as in claim 51, further comprising powering down a telemetry processor after transferring the message to a modulator.

55. (Original) The method as in claim 51, further comprising sending a status message from a main processor to the data encoder.

56. (New) A method of processing received telemetry signals by a telemetry processor in an implantable medical device, comprising:
receiving a serial data stream from a demodulator;

translating the received serial data stream into parallel accessible words;
verifying whether a message address of a received message has a valid cycle redundancy check;
verifying whether the message was intended for the implantable medical device;
detecting a message type; and
acknowledging the received message.

57. (New) The method as in claim 56, further comprising receiving a wake-up burst that activates the telemetry processor.

58. (New) The method as in claim 56, further comprising notifying a main processor if an application message has been received.

59. (New) The method as in claim 56, wherein the acknowledgement is transmitted upon receipt of a complete and validated message.

60. (New) The method as in claim 56, wherein the acknowledgement is a negative acknowledgement transmitted upon receipt of an incomplete and not validated message.

61. (New) The method as in claim 56, wherein the message type is selected from the group consisting of: acknowledgement, negative acknowledgement, application, and waveform.